THE AMERICAN ARCHITECT AND BUILDING NEWS.

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THE Report for 1876 of the President of the Massachusetts Institute of Technology, which has just been printed, is an interesting document, and covers a great variety of topics. Turning first to find what success has attended the architectural school of the Institute, the oldest in the country, we find that the extreme depression in architectural practice that has marked the year has not shown itself in the attendance here. The students, we are told, have been more in number (twenty-three) and of better quality than in other years. A special two-years' course of instruction, arranged with a view to the higher training of students who get their practical teaching in offices, has proved successful, and has attracted the greater part of the students in this department; the regular four-years' course, carried on in connection with other departments of the Institute and embracing a certain amount of general instruction, being followed by comparatively few. This is a convenience for students who have found other opportunities of following the collateral studies, mathematical and others, which an architect's educational outfit calls for; but where these are passed over, as they doubtless are by many students, the tendency to elect the shorter course is to be regretted. The last year's work of the department was well represented in the very creditable display made by it at the Centennial, of which an account is given in the Report, and which it is to be hoped most of our readers examined. We are glad to see it recorded that this school received its due share of the remarkable collection of casts of architectural detail which was the most interesting part of the artistic exhibit in the Spanish pavilion, — about fifty of the casts of Saracenic and Renaissance work having been given to it. The list of problems in architecture given to the two classes during the year shows the extent and variety of the practice that is set before them. We notice a porch, a campanile, a pavilion between two bridges, a staircase under a dome or vault, the restoration of a Pompeian house, a fountain, a memorial library, a railway station, a Catholic church, and others to the number of a score.

ONE of the most interesting parts of the report is the account of the workshops which have lately been added to the Institute for the purpose of exercising the students of mechanical engineering in the actual manipulations of metal-working. We have already mentioned (No. 61) the noteworthy success which attended the first opening of one of these shops; their further use has, according to President Runkle, fully borne out their early promise. There are now in working order shops for vise-work, — the use of the cold-chisel and file, — and for forging; a lathe shop and a foundry are to be added as fast as the means at the disposal of the Institute will allow. The Institute has been fortunate in securing for teachers in its vise and forging shops men of skill and long experience in practical work. The results of their careful and intelligent teaching have been a great surprise to mechanics who were accustomed only to the progress which is made by learners in the ordinary routine of shops. The example of this method of teaching was set, as is known, by the Russians, whose exhibit of the work of the Imperial Technical School attracted so much attention at Philadelphia. Their experience, which is cited by President Runkle, showed most decisively the wastefulness, as far as concerns instruction, of the system of learning a trade in the ordinary work of shops. The director of the Imperial school, the report says, has been authorized by the Russian Government to prepare for the Institute of Technology a duplicate of the exhibit of the school at the Centennial.

WE have also received the catalogue of the Illinois Industrial University for 1876–7, which is interesting to the profession for the information that it contains concerning the architectural school there. So far as can be judged from the catalogue, which does not include special reports of the various schools of the university, the architectural class seems to prosper; for of the one hundred and seventy-five members in the upper three classes thirteen are architectural students. This is a higher percentage than that of those who are studying mechanical or mining engineering, and does not fall much below that of those who study civil engineering. Of the forty-five female students in these three classes, only one is studying architecture; although one might think that the study of architecture and architectural designs, as pursued in schools, would be one of the studies most attractive to girls. That more have not embraced the opportunity is perhaps to be explained by the fact that few women are fitted to endure work so physically trying as that of the architectural draughtsman. We have before spoken in praise (vol. i. page 417) of the curriculum of studies prepared for the members of this class; and there seems to be no reason, provided the instruction is thorough and the pupils are willing to make haste slowly, why the graduates should not attain high rank in the profession. After the example of the Massachusetts Institute of Technology, a shop has been established and provided with full sets of wood-working tools, with which the students are to execute their own designs. During the first term instruction will be given in framing, splicing, panelling, dove-tailing, etc.; in the second term in turning, fret-sawing, veneering, carving, stair-building in all its branches, etc.; in the third term students will have miscellaneous practice in metal-work, painting, plastering, and stone-cutting, performing its various operations upon blocks of plaster. This is very satisfactory; and what we once said of the workshops at the Boston school we could say of this. There would be a certain convenience in an architect's or an engineer's being able to do with his own hands the work he has to direct others to do; though to become even passably expert in the use of carpenters' or joiners' tools requires more time than here seems to be appropriated to them: for instance, to become a good stair-builder is the work of several years' time, and here it is taught in three or four months. The main thing, however, is to acquire, not a mastery of manipulation, but a sufficient knowledge of its character and scope to know what it ought to be, and what it can or cannot do, so that workmen may be intelligently directed. Whether the courses at the Illinois University are intended to do more than this, or not, we do not know.

WE read with satisfaction at the same time, of the promised utilization of an old and rather fruitless institution for similar purposes. It is proposed to turn the famous Crystal Palace at Sydenham into a school for technical education. The London guilds have been interested in the project, and are expected to devote a portion of their revenues to it. There are some fourscore of these guilds in London, of varying importance, some of them having large revenues. They have for the most part ceased to exert any active influence on the trades they represent, and may be said to be out of work, though they retain their halls and give their annual banquets. It is reported that several of the leading guilds have agreed to contribute each two thousand pounds a year to the support of the school, while others have promised aid to it; and it is hoped that the ample endowment of fifty thousand pounds a year may be raised. These are the figures that the newspapers give; they certainly look large.

HONORS are proverbially unapt to descend from father to son, except by formal inheritance. It is therefore a more than usually conspicuous distinction that the English Royal Gold Medal for architecture has been given to Mr. Edward Barry, the present president of the Institute, whose father, the famous Sir Charles Barry, had received it in his turn years before. Mr. Barry, who was educated in his father's office, and inherited in a considerable degree his professional bent and tastes, has won his distinguished position as much, we believe, by his cultivated professional scholarship, and by the honorable spirit and sound practical judgment which have marked his career, as by the excellence of his professional work. His last undertaking of note has been the arrangement of the new galleries for the Royal Academy at Burlington House. Prof. Donaldson, the Nestor of the Institute, in making the presentation took occasion to hope that the name of Barry might be permanently associated with architecture, and that a hundred years hence the family would leave behind them monuments worthy of the architect of the Houses of Parliament. Considering the changes in fashion that have swept over English architecture since Sir Charles Barry came upon the stage, it would be interesting to know in what style his descendants will be found working at the end of Prof. Donaldson's century.

A QUESTION of some interest touching the force of professional certificates has just been decided in an English court. A certain English company, building a railway in Russia, had contracted for rails with an English iron-manufacturing firm. The contract stipulated that the rails should be of the very best quality, should be manufactured under the supervision and in every respect to the satisfaction of the engineer, that he should have power to reject any that did not suit him, and that his decision on any points that might be disputed should be final and binding on both parties. It was added, somewhat inconsistently perhaps, that the examination by the engineer should not commit the company to the acceptance of any rails which when delivered were not found to be strictly in accordance with the specification. The rails were made in England; and the engineer, Sir John Hawkshaw, appointed a deputy to supervise their manufacture. The deputy, having seen them made and tested samples of them, reported in their favor to the engineer, who thereupon gave his certificate of satisfaction. The rails were delivered in Russia, received, paid for, and laid down; but the use and exposure of them during one winter showed them to be defective. Thereupon the company brought suit to recover damages against the contractors, on the ground that the rails were not of the quality specified, and that the contract contained no provision debarring them from recovering in such a case. They argued also that the clause that they should not be committed by the engineer's acceptance of rails that proved faulty on delivery gave them a right to recover. The judge ruled that inasmuch as no defects were discovered in the rails when they were delivered, the approval of the engineer must be considered final, and that the company's right to recover was destroyed by it. This decision touches a question often asked, whether an architect's certificate, which stands on the same footing as an engineer's, is to be considered as binding upon his client without remedy. The question did not come up, whether the client was bound to pay for work certified to by the engineer without regard to his own approval of it; but it is pretty clear that such an obligation is included in the judgment that the engineer's certificate was final, and we imagine that it would hold in the case of any work contracted for under approval of an engineer or architect, even without the express stipulation of the contract here mentioned that his approval should be final. The remedy in such a case then is in a suit not against the contractor, but against the architect or engineer. This leaves a good deal of authority and binding power over the client in his agent's hand; but it is in the nature of an architect's service, that this should be so. It is not to be expected that a contractor will agree to satisfy two independent authorities in the execution of his work, or that a client can be allowed to delegate his authority, and then escape the responsibility for it. On the other hand it is reasonable that the architect in his turn should be held to a close accountability to his client, for the proper and skilful performance of his duties; and it will be to the detriment neither of the community nor of the profession, when this responsibility is more consistently enforced than it is among us.

THE Woodruff Scientific Expedition, of which we have received the final announcement, is so far organized that its starting is appointed for next October. A good steamer of fourteen hundred tons, the "City of Merida," formerly of the Alexandre line from New York to Havana and Mexico, has been chartered, and it is expected that Commander John W. Philip of the United States Navy will be detailed to take charge of her. She will be officered and manned like a vessel of the navy. The object of the expedition, as appears from the announcements, is to furnish an exemplary tour to such a class of students in science as may be attracted to it, and at the same time to accomplish as much scientific work as such a tour may give opportunity for. The guiding body of the expedition will be a faculty of scientific men, among whom are Prof. Wilder of Cornell for comparative anatomy, Prof. Smith of Yale for zoölogy, Prof. Herdman of the University of Michigan for physiology and anthropology, Prof. Farlow of Harvard for botany, Dr. Schaffter of Berne for history and geography, Prof. Jenney of the University of Michigan for art and archæology. The ship will be carefully fitted up with all appliances for the necessary scientific study, a library of scientific works for reference, books of travel, etc. Regular courses of lectures will be given when actual explorations are not in hand. The time allowed for the expedition is two years: the route is to be by way of the Bahamas to South America, stopping at the mouth of the Amazon, thence to round the continent by the Straits of Magellan and to Valparaiso, across the Pacific by Otaheite and the Feejee Islands to Formosa, Japan, China, and the Philippine Islands, through the Indian Archipelago and by Southern India to the Red Sea, stopping at many points to make observations and collect specimens, and through the Suez Canal into the Mediterranean. Egypt, Palestine, Greece, and Italy will be visited, and Spain and France will be touched on the way to England, whence the Expedition will sail for home.

THE main attention of the company, as may be supposed from its organization and route, will be given to study of the natural sciences; and the greatest expenditure of time is assigned to the more unfrequented places in and about the Pacific and Indian Oceans, where it is expected that collections of value may be made. It is intended, however, to take advantage of the opportunities which such a trip offers for the study of history, archæology, and art; and to secure, as far as may be, the information and enjoyment which are the usual objects of foreign travel. The families of some of the professors will go with them; and a variety of shore excursions are proposed in the various countries, especially of Europe, at which the ship will touch. The scheme gives evidence of careful study and intelligent planning, though we are led to suspect that the professor of archæology was absent when the prospectus was drawn, since we read in it that the ruins of Pæstum are among the grandest remains of Roman art. The different regions will be reached at favorable seasons, as far as the range and duration of the voyage will permit. The vessel is being fitted up for the purpose with care; and the preparations are apparently making in a very liberal manner. Of course this expedition cannot, in the nature of things, be a cheap pastime: it is rather an encouragement to see that the fee required from the student is five thousand dollars, though for those who are entered as "cadets," to take their part with the officers of the vessel, it is reduced to half that sum. It is perhaps sanguine to expect that much can be accomplished by such an expedition, under the constant necessity of "moving on," in the way of actual scientific work, except in collecting, under guidance of the professors, valuable specimens for subsequent study; or that any great progress can be made in such studies as archæology or any branch of art. But the students will have the advantage, of the utmost value to them, of seeing how the actual work of investigation is undertaken by experienced hands, and of being constantly in the atmosphere of it during their two years' voyage. In the matter of art, they will have an opportunity to get that kind of cultivation which comes of

seeing, under intelligent guidance and with the stimulus of a common enthusiasm, what there is to study and how it ought to be studied. In fact, we should think that for those who wish for the advantage of a tour of study in the subjects which come within the scope of the expedition, here was an opportunity of unusual promise.

THE QUALIFICATION OF ARCHITECTS.

THERE ought to be some good lessons learned and some advantage wrested from the many disasters to buildings which have attracted public attention during the last two or three months. There has been general complaint enough of incapacity among architects to lead to some effort on the part of the public to compel proficiency if it lay in their power, one would think; and it ought to be enough to arouse among architects a serious desire to vindicate their profession from the rather wholesale reproaches that have been cast upon it. It would seem that for the sake of the public at least there was the same sort of need to protect their lives and property from danger of malpractice, though in a less degree, that there is to make themselves secure in the hands of physicians. The casualties that have occurred have come about through want of knowledge and training or want of care of architects, or of their subordinates, or of persons who ought to have been their subordinates. Inasmuch as good building can always be secured by going to work in the right way and by employing the right persons, it becomes to the public a matter of great importance to have some guaranty of proper qualifications in architects, and some way of discriminating between those who possess them and those who do not. To architects, on the other hand, it becomes important both that the claim of the instructed part of their profession to confidence should be recognized, and that there should be some better way than now exists of distinguishing between the instructed and the uninstructed. This leads directly to the question whether the architect's profession ought any more than the physician's or the lawyer's to be open to all comers; whether everybody who chooses to call himself an architect is to be accepted as such without distinction; or whether some test which the public can recognize should be set up to distinguish those who are to be accepted from those who are not.

Of the main facts that a great many persons assume a place in the profession who have no sort of proper training for it, and that there is no distinction whatever visible to the public between these and those who have given themselves every advantage of education, there can be no question. It is not so easy to say how such a distinction is to be marked, and to choose the best way of doing it. It would not be easy in any case to set up a high standard of attainment: it would however be reasonable to establish a minimum requisition, which should oblige every one who would claim to be a practising architect to at least put himself in the way of acquiring a fair knowledge of what an architect is called upon to do, and should exclude everybody who could not show that he had provided himself such opportunities.

We are not without precedents. In Prussia, for instance, whoever will undertake practice as an architect is obliged to go through a proper course of study, and pass an examination upon it: until this he is not allowed to practise. We do not know that any such condition is enforced in France, but the very strict responsibility for his work to which the laws hold an architect make it dangerous to him not to know his business. The fact that a great architectural school is maintained by the French Government, and that all the honors and most of the success of the profession fall to the graduates of this school, makes it the standard of training, and almost compels every architect to learn his profession there. So far as we know, M. Viollet-le-Duc is the only French architect of the day who has attained great distinction without having been a pupil of the *École des Beaux-Arts*. The existence of the school, if it does not exclude from the profession all but its own pupils, establishes a definite and universally recognized standard of training for it, and makes professional success impossible to those who fall greatly below it. In England there is no such provision as either the French or the Prussian. The numbers and prestige of the two great associations, the Royal Institute of British Architects and the Architectural Association, as well as of the provincial societies, tell in favor of professional acquirement there. The question of introducing an examination for a degree in architecture by the Institute has been brought up; but the proposition has been opposed on the ground that architecture is an art, and that therefore proficiency in it is not to be determined by an examination. This is true; but it does not cover the ground, at least from the point of view of the public, which demands, or should demand, a guaranty not so much of an architect's taste, talent, or artistic skill, which cannot be controlled, as of fitness for his practical work, which is the one part of his professional capability that can be provided to order.

The need is already supplied among us in other professions. Almost all religious denominations, for instance, require that their ministers shall be licensed before they allow them to assume charge of parishes or to preach. Lawyers are not allowed to practise in the courts till they have been admitted to their bar; and this is contingent on their passing some sort of examination, as the continuance of their membership is, theoretically at least, on their maintaining a certain degree of decency in their professional relations. In all civilized countries, physicians are obliged to provide themselves with a degree, or with a certificate of some kind, before they are allowed to practise, or, what is the same thing in intent, before they can lawfully collect their fees. In none of these professions is the required standard of acquirement a high one; nevertheless it is enough to oblige candidates to have at least undertaken a course of professional study, and put themselves in the way of learning their business. It is a public recognition of the fact that a certain professional training is necessary, and of the means by which it is to be acquired; and no one can doubt that in these professions, the restrictions, slight as they are, that are so put upon entrance to them, have an effect in keeping the average standard of knowledge and skill above what it would be without them. They give also, at least, a low-water mark, below which the public may know that that they ought not to go, and in most cases cannot, in their choice of a practitioner. Such restrictions redound to the public esteem of the professions which conform to them or enforce them, not merely from their appearing to serve as a guaranty of some sort of capability, but from the simple fact that they betoken a certain care in exclusion, just as the clubs in which it is known to be most difficult to acquire membership are most esteemed even by those who have not the smallest idea of belonging to them. The restrictions, too, react on the profession by encouraging a wholesome *esprit de corps*. This *esprit de corps* is one of the most efficient means of keeping the practitioners of any profession up to their best work, and is invaluable in securing the benefits of common action; but it is difficult to maintain mutual support, encouragement, or even recognition, among the *personnel* of a profession which is so unfenced that no one knows how or when its members get into it.

There are two ways of marking the line of entrance to a profession, both of which are found serviceable. One is the method adopted in this country by the bars of the various courts of voluntary association among their members, excluding or else marking by some unmistakable disability those who do not conform to its requisitions. The other is by statute law, requiring a degree, certificate, or license, and making this the condition of recognition in the courts. It is the palladium of the medical profession. The first means has the advantage of favoring more than the other a united professional spirit among the practitioners, the *esprit de corps* which we have commended; and may be more elastic, giving better opportunity to raise the standard of admission from time to time, in accordance with the general growth of technical acquirement. It has the disadvantage to the common eye of being in the direct interest of the profession only, and of only indirectly benefiting the public by giving them on the whole better lawyers, architects, or whatever it may be. It is therefore, when it is introduced as a novelty, less likely to commend itself to the common mind. Moreover in a profession as loosely strung as ours, there would probably be difficulty in uniting the members in the general effort necessary to make it succeed. It was adopted in the law at a time when people were more systematic, precise, and united in matters of polity than they are now and here. It was in fact a relic of the spirit of the mediæval guilds, a spirit which it would be a laborious undertaking to instil into our new and

unorganized profession, as it would be difficult perhaps to do it without at first incurring reproach.

The second means has the advantage of appealing directly to the public interest, in that it is primarily a way of protecting the public against incapable practitioners; and it saves those who are established from the reproach of assuming to debar others from a position which they themselves have already secured. Such a distinction is perhaps more apparent than real; but it would undoubtedly have an influence on the popularity or unpopularity of the movement, and also on the spirit in which it was undertaken or opposed. The natural means of enforcing such restrictions as it might be thought well to impose would be that which holds with physicians, — incompetence of the disqualified to collect their fees or sue before the courts. The qualifications which naturally suggest themselves are technical examinations and the certificate of a proper course of study. The first is the most satisfactory when it can be properly enforced, as it is in some countries; and it is practicable and decisive in the matter of technical acquirement as it is not in that of fitness for civil appointments. Examinations are unpopular, however, and the position of examiners is more or less odious; while some degree or other certificate of acquirement from a recognized authority is as inoffensive a condition as could well be annexed to the practice of any lawfully regulated calling. It might, therefore, be found easier to secure acceptance for a system of which examination was not a part, or in which it was only an alternative.

The fact that jurisprudence is the concern of individual States makes it natural and easy that any such provisions should be set on foot at first as a local experiment. The great trusts, public and private, that are put into the hands of architects, the warnings we have lately had how much the security of life depends on the skill and faithfulness with which their duty is performed, are proof enough of the concern that the public has in their competency. It would be quite in character for the Legislature of Indiana, which has just prescribed such a heavy burden for the architects whom it invites to compete for the design of its State Capitol, to take some means for the purification of the profession which it handles so roughly. But it would be preferable that some State in which the profession is better organized than it is in Indiana should set the example. If, for instance, New York or Massachusetts should pass a good law regulating the practice of architecture, it would be doing good service and setting a wholesome example. Such a law might provide that from its going into effect no one should be legally recognized as an architect or entitled to collect his fees who should attempt to practise without a license or commission; that such license or commission should be granted only to architects who could prove themselves to have been established in practice before the taking effect of the law, or to those who should pass a satisfactory technical examination before some stated tribunal, or who should show by the degree or certificate of some duly recognized authority that they had pursued a sufficient and recognized course of professional study. It would be a matter of some care and consideration to adjust satisfactorily the details of the scheme, but there would be no insurmountable difficulty in making it practicable and reasonably efficient. Every legal restriction of whatever kind finds its opponents. Builders who wished an easy transition from the bench or the trowel to the architect's desk might resist this; but it is not easy to see from whom else any very strong opposition should come. To an enlightened public opinion it should present itself as a safeguard, while architects ought to welcome it as a permanent help to the standing of their profession, which should offset the trifling inconvenience of licensing or enrolling themselves. We earnestly commend the consideration of this topic to our fellow-architects, and shall be glad to hear what suggestions they may have to make with regard to it. It is quite time that something was done to show publicly what is an architect and what is not. The public has been awakened to the importance of proper knowledge among architects. Those of them who wish to raise their profession in proficiency or in influence will see that here is an opportunity which ought not to be neglected. Any movement to establish a legal definition of it will come much more gracefully from architects themselves, than from a legislature animated by the spirit of that of Indiana.

NEW BOOKS.

SANITARY ENGINEERING.[1]

IT is not many years since the title "sanitary engineer" attracted the same sort of questioning comment with which at about the same period the title "landscape architect," and earlier the title "consulting engineer," were received by regular practitioners. Thirty years ago the engineering of sewerage was regarded as a matter of rather slight importance, and it had failed to gain any considerable special attention.

At about the time when the construction of the main intercepting sewers of London and the delivery of the city sewage some miles down the Thames were first contemplated, there were published by the English Government a number of "Blue Books" giving a very thorough, and for that period a very exhaustive, consideration to matters relating to sewerage and house drainage. Subsequent inquiries into the causation of zymotic diseases have engaged the attention of many able investigators; and the whole subject has been taken up by philanthropic philosophers and writers until little by little the science of sanitary engineering has attained a position in which its importance is recognized in and out of the profession.

Mr. Bailey Denton's book is the most important, as it is the latest publication on the subject. It is a ponderous octavo volume of four hundred pages, quite doubled in size by numerous plates showing the details of construction of all manner of sanitary works. Being the work of a single engineer, it is of course very largely the exposition of the theories and practice of an individual, and it has the limitations which attach to all individual performances. But it has also the great merit which comes especially of the persistent study and careful consideration of a man of more than ordinary intelligence, who has reached the highest position in his profession. It is in our opinion the most complete and satisfactory treatise that has yet appeared on this subject, and the most valuable single work to which an architect, a physician, or an engineer may appeal for practical information.

We propose to devote more than one paper to its consideration, for it covers a range of subjects to which no adequate reference can be made in a short review. It is divided into five sections: Air; Water; the Dwelling; the Town and Village; and the Treatment and Disposal of Sewage. The first section relates especially to the pollution of air by animal life, and by the decomposition of organic matter, with reference to the value of the percentage of carbonic acid as an index to its degree of contamination; and to the action of ozone as an agent of purification. Dr. Cornelius Fox's sources of ozone are stated to be, "the oxidation of metals, the decomposition of rocks, the germination of seeds, the growth of plants, the falling of dew, rain, hail, and snow; the collision of air-currents of different degrees of humidity, proceeding from opposite quarters, with one another or with the earth; the evaporation which is continually proceeding from saline fluids, such as oceans, seas, and lakes; the dashing and splashing, the smashing and crashing, of the restless waves on the rocky coast."

On the subject of "ground-air" much importance is given to the investigation of Prof. Ripley Nicholls of the Massachusetts Institute of Technology, covering the important fact that although soil surcharged with foul matters contains an important amount of dangerous gases, the diffusion of these gases in the atmosphere is so active that a few feet from the surface of the ground no excess of carbonic acid could be detected.

The production of *malaria* in soils not polluted by domestic life is closely connected with undue soil-moisture. This was especially noticeable in Mr. Denton's examinations of the seacoast marshes between Civita Vecchia and Pæstum, where the water stands within a short distance of the surface, and where the amount of organic matter is very large.

The duty of the engineer in relation to air is imperative in the direction of rendering the ground upon which dwellings are to stand sufficiently dry by artificial drainage, — that is, "free from subsoil water to within a recognized depth of their foundations." The absence of under-drainage is the primary cause of evil, while a soil aërated by under-drainage would to a certain extent oxidize the organic matters it contains, and greatly prevent the generation of miasma.

Referring to the accidental circumstance that sewers as they are often constructed serve as underdrains, it is stated that they should by no means be built with reference to this fact, for the reason that while subsoil water flows into them and is removed by them when this water stands at a sufficient height in the grounds, when the water recedes in time of drought the reverse action takes place, and the foul liquids of the sewer leak out into the earth.

Our author's statements have a bearing upon a discussion published some months since in these columns. It is asserted that "soil when drained and aërated has an almost immeasurable power of cleansing any fluid that may enter and pass through it, and thus defective work may be rendered harmless."

By reason of our nationality, we may be excused for referring to the fact that Mr. Denton, like most English writers, fails to give

[1] Sanitary Engineering: a series of lectures delivered before the School of Military Engineering, at Chatham, Eng., by J. Bailey Denton, F. G. S. M. Inst. C. E., etc. E. and F. N. Spon, London and New York.

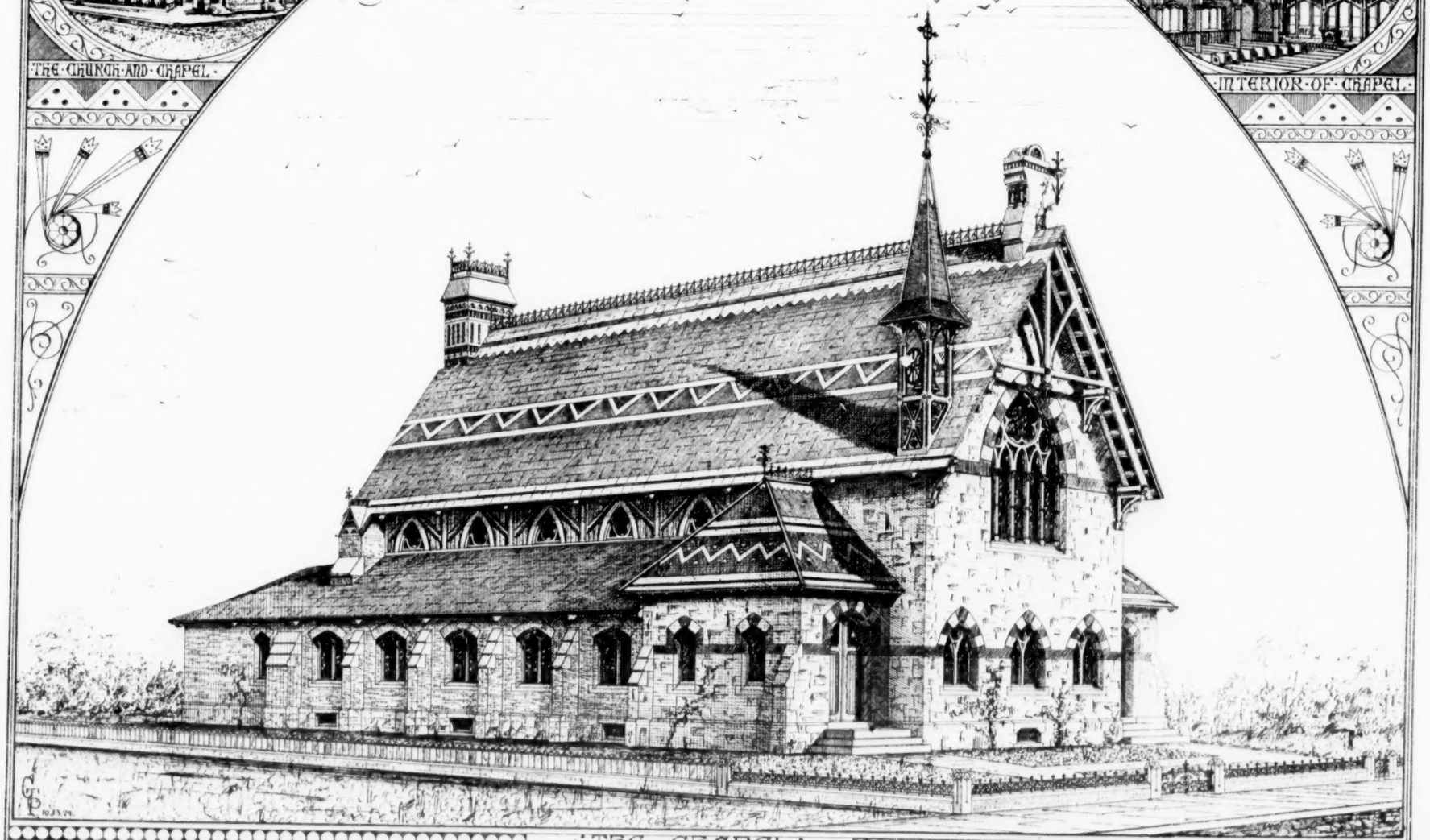
American Architect and Building News, July 7 1877

NEW BUILDINGS OF THE SECOND PRES. CHURCH MANTUA PHIL.

DAVIS & SUPPLEE ARCHITECTS PHILADA 1874

THE CHURCH AND CHAPEL

INTERIOR OF CHAPEL

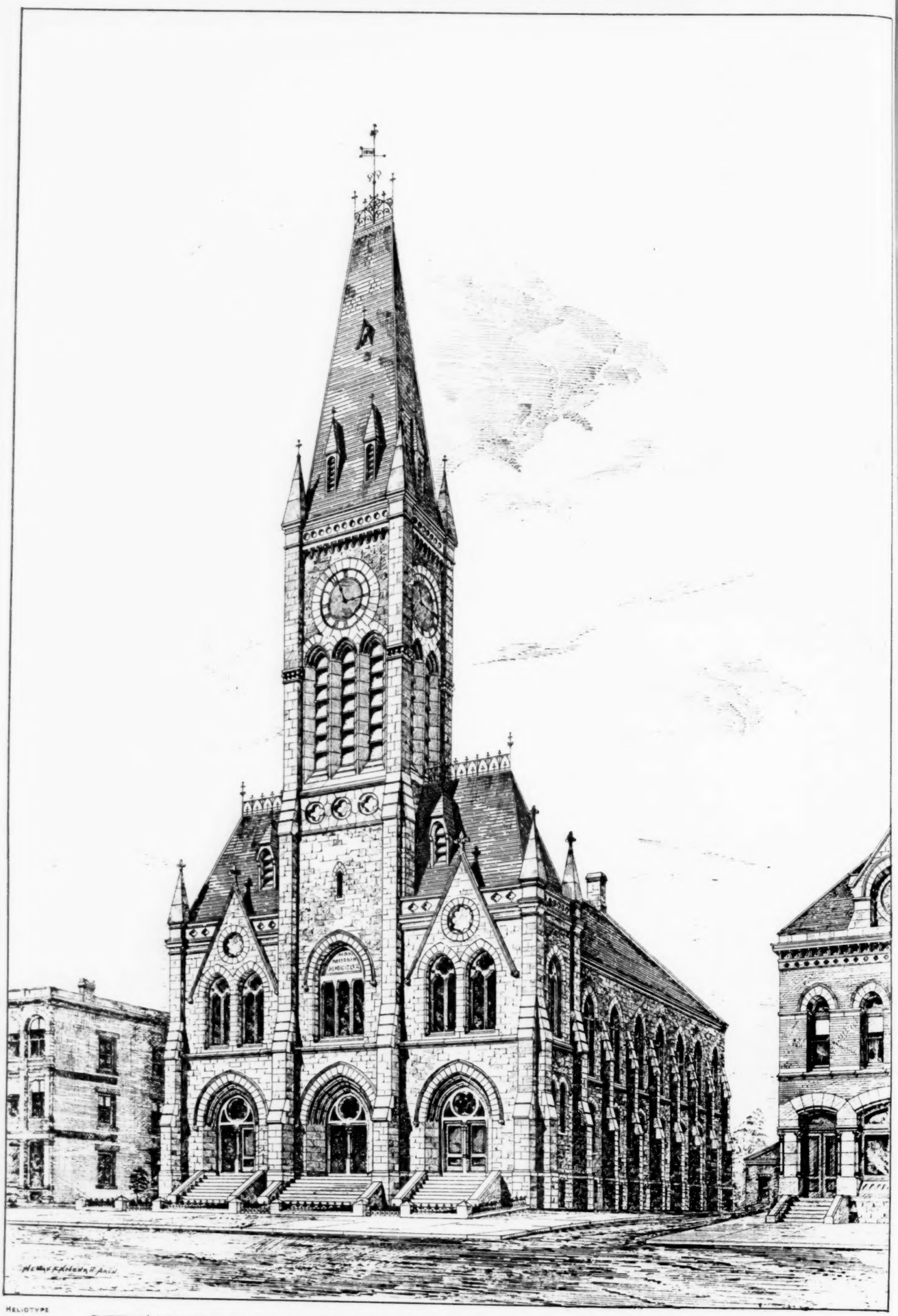


THE CHAPEL

HELIOTYPE

Ames R. Osgood & Co. Boston

NEW BUILDINGS OF
THE ST. STEPHEN'S



HELIOTYPE

DESIGN FOR THE FIRST CONGREGATIONAL CHURCH. NORTHAMPTON, MASS.

H. P. KIRBY ARCHT

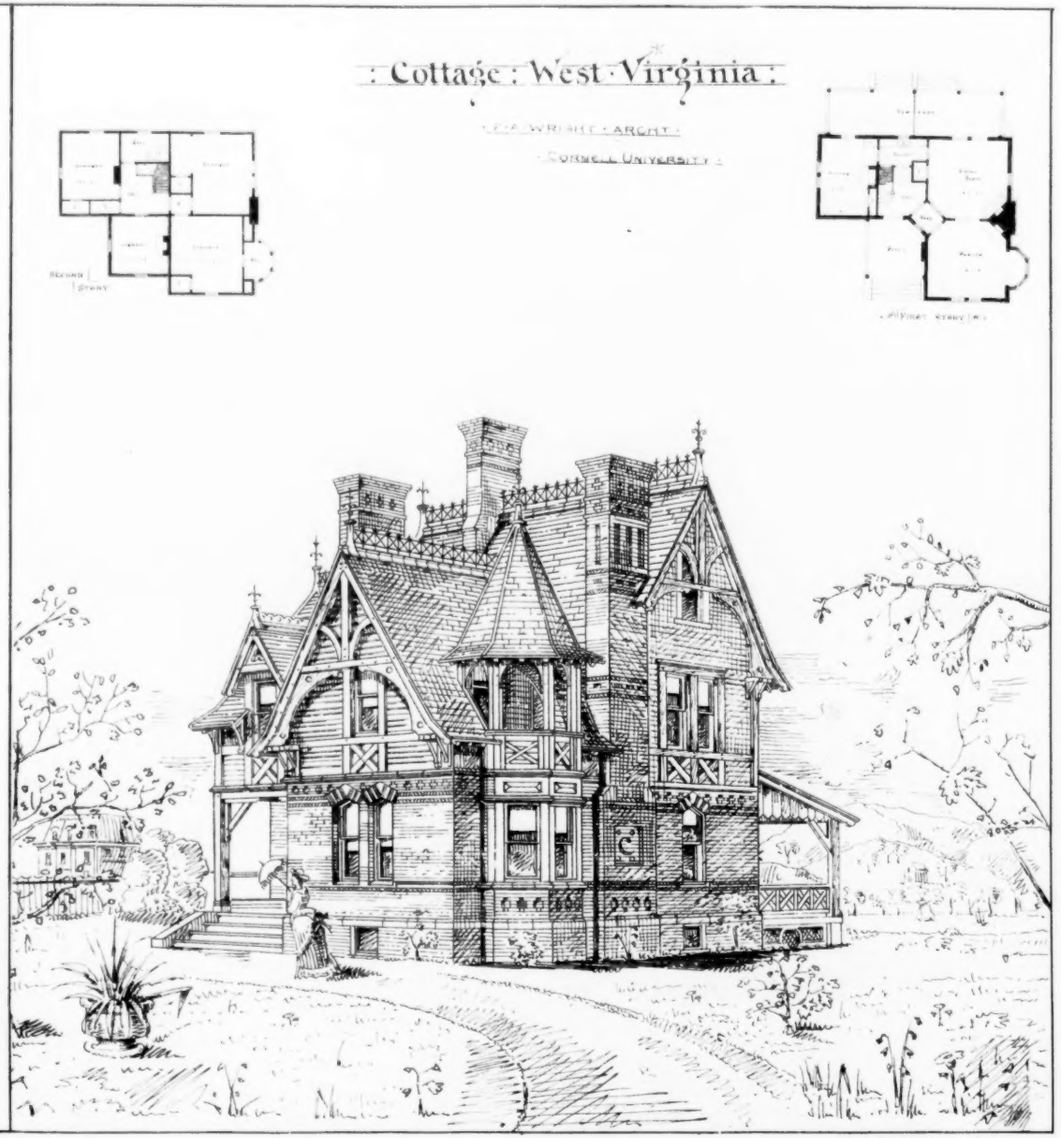
DESIGN FOR A SCHOOL HOUSE.

HELIOTYPE

Cottage: West Virginia.

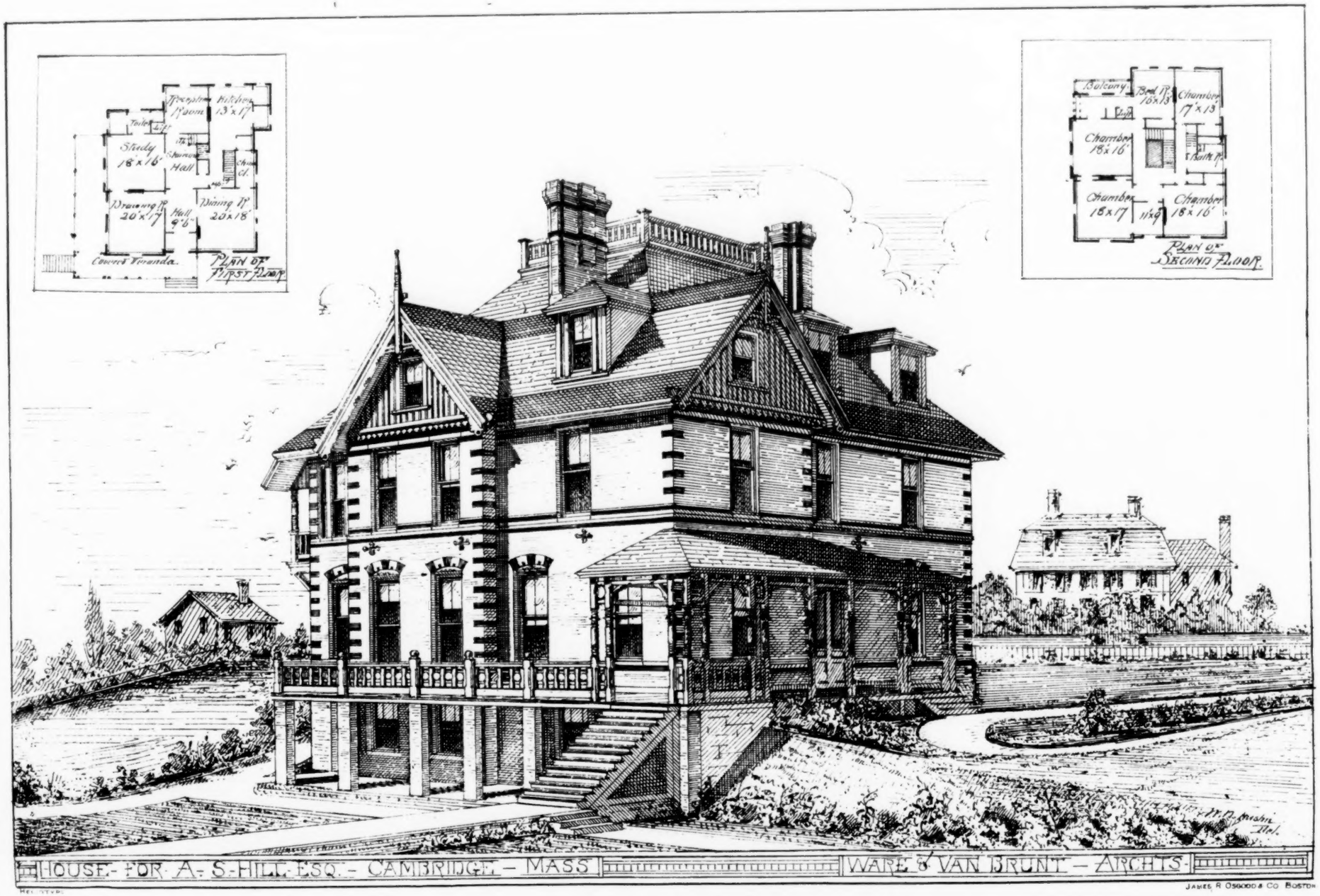
C. A. WRIGHT, ARCHT.

CORNELL UNIVERSITY.



JAMES R. OSGOOD & CO. BOSTON

American Architect and Building News. July 7. 1877



to Dr. Bowditch of Boston the full measure of credit that seems his due for the suggestion, now almost universally adopted by sanitarians, — that soil-moisture bears a very important relation to the propagation of consumption. English experience and observation seem fully to sustain this theory, but they only sustain it. All that they have proved or suggested seems to have been covered by Bowditch's original publication. It has long been understood that protection from fever and ague is influenced by the decomposition of organic matter in the presence of excessive moisture, or by the exposure of organic matter recently submerged. Mr. Denton says: "From the Fens, ague, which has been the rule in every family during the spring of the year, has now been almost entirely banished by the works of Rennie and other engineers; although since it first ceased to exist the disease has recurred, not at the same period of the year (spring) as before, but, as I am informed by Mr. William Marshall of Ely (the accuracy of whose observations as a naturalist is well known), in the autumn of the year, — a special circumstance, which he says has been explained by the fact that 'the drainage has been carried beyond the point of prudence, so that in the summer months and especially towards harvest, the Fen ditches became nearly dry, and the consequence was that we once more got an exhaling surface, and a noxious effluvium arising from decaying vegetable matter.'" Mr. Marshall in further explanation adds that "this state of things is now quite altered, and the ague has again vanished, owing to the farmers making it a rule to let water in from the rivers during the summer months, so as to 'keep a water' always in the fen ditches."

Aside from the influence of soil drainage upon the production of malaria, its influence upon temperature is hardly less marked. Buchan's experiments showed that in Scotland the under-drainage of agricultural lands produced an advantage in temperature equal to a removal of a hundred to a hundred and fifty miles southward.

From the last division of the section on Air we quote the following: —

"The maintenance of pure air by the under-drainage of the soil surrounding and beneath dwellings is an object only inferior in importance to the removal of putrescible matters. That this object is one of the most important that can engage the attention of the sanitary engineer, cannot be denied when it is shown on the authority of Dr. de Chaumont that long-continued exposure to bad air tends to the production of scrofula and consumption — of which latter disease it is, as already stated, probably the most efficient cause; that it promotes enteric fevers; that it fosters ailments of the respiratory organs, such as catarrh, bronchitis, and pneumonia; that it is frequently the cause of inflammation of the eyes; and that it adds to the spread of small-pox, measles, scarlet fever, and the like, while it renders the rapid cure of wounds and all sores a work of great difficulty."

AN ARCHITECT'S LETTER ABOUT SEWER-GAS AND HOUSE-DRAINAGE.

This is a small pamphlet containing a letter of advice with illustrations, written by Henry Masters, Park Street, Bristol, Eng., to a client in whose house there had occurred a death from an illness that was supposed to have been caused by the admission of sewer-gas. It describes very well a system of soil-pipe and drain ventilation, such as is quite generally recommended in England by architects and by sanitarians, who confine their attention to the drainage work of the house, but who seem to us to pay too little regard to the condition of the air in the sewer in the street. Considering the writer's standpoint, the case is well stated, and the directions are explicit; but the whole tendency of these gentlemen is in the wrong direction.

Almost without exception, they make a great point of so separating the soil-pipe from the street sewer, that there is no possibility of the ventilation of the latter by what is generally considered to be the most efficient means.

There is no better way to secure the community from sewer-gas, than to ventilate the sewer itself; and there is no more effective way for securing the ventilation of the sewer than by using every soil-pipe and house-drain connected with it as a channel for the withdrawal of its air. Were this imperatively demanded by municipal authority, not only should we secure the best ventilation of the sewer, but the sewer would become the best source from which to draw a supply of air for the ventilation of the soil-pipe.

The idea that there is danger of a leakage of sewer air in the house, if this system is adopted, is certainly erroneous. A cast-iron soil-pipe with well secured lead joints passing through the house from the cellar to a suitable point above the roof, provided at this point with a ventilating cowl, need under no circumstances lead to the entrance of sewer air. It is only a question of proper construction, in a matter where proper construction is perfectly easy.

PROTECTION FOR PENCIL-SKETCHES. — To protect delicate drawings in pencil or chalk, such as are easily smudged if roughly handled, and to give them more permanence and solidity, coat them with ordinary collodion, sold by all dealers in photographic materials. The same may, if desired, be used with an admixture of porriff in stearine or castor oil, and affords a coating. Pencil-sketches are in this way rendered clearer, and may therefore be copied the more easily.

THE ILLUSTRATIONS.

COMPETITIVE DESIGN FOR FIRST CONGREGATIONAL CHURCH AT NORTHAMPTON, MASS. MR. H. F. KILBURN, ARCHITECT.

(Broadway, New York, N.Y.)

THIS design was selected several months ago from about twenty-five, by a committee, and afterwards adopted by the parish; but owing to the subsequent preference of the building committee for a different design it was not carried out. It has a seating capacity for twelve hundred, with lecture-room, Sunday-school room, library, parlor, etc., in the basement. It was to be built of Monson granite, with white ash for interior wood-work. A responsible builder offered, in writing, to build it in this manner for $50,000.

COTTAGE IN WEST VIRGINIA. MR. F. A. WRIGHT, ARCHITECT.

(Cornell University, Ithaca, N.Y.)

As may be seen, the first story is of brick, and all above is of wood. Black and yellow bricks are introduced to add variety, and in general take the place of stone, which is sparingly used. A panel in the chimney has an initial and date, in tile-work. The outside wood-work is painted in two colors. The iron-work, consisting of the cresting and finials, is also in two colors. The inside finish is of hard wood, oiled, except the kitchen and attic, which are of pine, shellacked. The dining-room, parlor, and hall have hard wood floors, with black walnut borders. The dining-room ceiling is of wood, in narrow strips laid diagonally. There is a plain wainscoting in the hall and dining-room. The cornices are of wood, as also are the two mantels. The bay-window opening in the parlor is square-headed, the architrave running around with brackets inserted in the angles. This house was erected last summer, at an estimated cost of about $4,000.

HOUSE FOR A. S. HILL, ESQ., CAMBRIDGE, MASS. MESSRS. WARE AND VAN BRUNT, ARCHITECTS.

(2 Pemberton Square, Boston, Mass.)

SCHOOLHOUSE AT PROVIDENCE, R.I. MESSRS. WALKER AND GOULD, ARCHITECTS.

(Providence, R.I.)

CHAPEL FOR THE SECOND PRESBYTERIAN CHURCH, MANTUA, PENN. MR. D. E. SUPPLEE, ARCHITECT.

(208 South 4th St., Philadelphia, Penn.)

AMERICAN INSTITUTE OF ARCHITECTS.

BOARD OF TRUSTEES.

AT the regular monthly meeting held at the rooms of the Institute on Thursday, April 5, 1877, a communication received from the "*Société Centrale des Architectes*" of Paris, dated March 3, 1877, inviting a delegate to be sent to a congress of that society to be held in the *Ecole des Beaux-Arts* between the 11th and 16th of next June, was referred to the Secretary for Foreign Correspondence.

The Secretary said he had recently seen for sale at Sypher's, price $60, a perspective drawing of the original Capitol at Washington, purporting to be the work of Latrobe, and presented by him to Thomas Jefferson. The Secretary called attention to the action of the last convention in relation to a set of Latrobe's drawings offered to the Institute by his son, and moved that a correspondence be opened on the subject. Carried. . . .

Mr. Haight moved that the Rev. William A. McVicar be elected a corresponding member. Carried.

The meeting then adjourned.

At an adjourned monthly meeting held at the Institute rooms on Thursday, May 10, 1877, the Secretary presented a letter from John Moser, Toledo, O., April 20, 1877, with application for a Fellowship, dated Feb. 8, 1877, indorsed by Levi T. Scofield and Walter Blythe of Cleveland, and statement of his professional education; also specifications, photographs, and other illustrations of his work. After a survey of his credentials the Secretary was instructed to send out the circular of inquiry to Fellows with Mr. Moser's name. . . .

At the regular quarterly meeting held at the rooms of the Institute, on Thursday, June 7, 1877, the Secretary presented a communication from Mr. J. W. Moulton, architect, of New Haven, Conn., dated May 18, 1877, in relation to organizing a Chapter. The Secretary was desired to correspond with Mr. Moulton.

Also a letter from Prof. E. D. Lindsey, Curator of Grounds and Buildings of Princeton College, dated June 3, 1877, asking to consult next fall with the Institute "as to the *degree* which ought to be assigned — *if any* — to the graduates of (his) classes in architecture." The Secretary was desired to tell him that the Trustees will be glad to confer with him on the subject.

Also a letter from Mr. John Eaton, Commissioner of the United States Bureau of Education, Washington, D.C., dated May 4, 1877, making inquiries as to the library of the Institute.

Also a printed form of contract adopted by the Rhode Island Chapter and forwarded by that Chapter. A vote of thanks was tendered to the Rhode Island Chapter therefor. . . .

The meeting then adjourned.

CORRESPONDENCE.

THE STEWART MEMORIAL CHURCH. — THE ASTOR REREDOS. — NEW BUILDINGS. — A PROPOSED MUSEUM OF SCIENTIFIC INDUSTRY.

NEW YORK.

THE Stewart Memorial Church at Garden City, L.I., has received considerable attention during the past week in the public notices and reports of the ceremonies connected with the laying of the corner-stone. The discussion upon the merits and demerits of the design has already begun; and while the general public look at the pretty pictures which Judge Hilton has had prepared, and the exaggerated bill of costs which has been so industriously circulated, and cry, "Beautiful! charming!" the few architects who have seen it, and the many more who have heard of it, shrug their shoulders, and mutter significantly about another of Stewart's building blunders. And it certainly does seem that the fatality which marked every attempt of A. T. Stewart in the way of building, is to be repeated here in this erection over the remains of the dead millionnaire. The religious rejoicings over the corner-stone laying drew a crowd of nearly ten thousand people, and of course the joy over such an endowment as this cathedral ran very high in the ranks of the clergy and church people; and it would have been a subject for real congratulation, had a broader notion of what the future of his work would demand occurred to the architect when laying the first lines of his design. His work is a cathedral only in name: really it is but a chapel; and if, in place of carved slabs and other showy work, an attempt had been made to expend the money on a building combining massive treatment with a beauty of mass and outline, it would have given opportunity for further work and drawn praise where now, at best, but a qualified approval can be vouchsafed.

The private view of the Astor reredos in Trinity Church, on the 27th ult., was an occasion of which any architect might feel proud. Divines and literary men, journalists, critics, and fellow-architects, with a liberal sprinkling of the best class of general society, thronged the church for several hours, dividing their time between feasting their eyes upon the beautiful work and heaping congratulations upon Mr. Withers. There was criticism, but even the severest critic, who thought the sky-line in this, a Gothic piece of work, was not sufficiently marked, modified his severity when he remembered the circumstances under which the work was done, with a great colored chancel at the back, and without the opportunity of setting the work out some feet, and getting that relief which it now lacks. One thought that more prominence might have been given this new work, even at the expense of the church's interior; but this was a point which Mr. Withers specially strove to avoid, and the criticism was therefore eminently unjust. The execution is magnificent as a specimen of workmanship; almost too good, leading one to feel like tasting it, as a richly ornamented bit of confectionery. At the dedication ceremonies on Friday, St. Peter's Day, Dr. Morgan Dix, the rector, paid a high compliment to Mr. Withers, saying, —

"In the architect we have had one who fears God and loves the Church; whose whole heart has been in this thing; who has a devout religious purpose in it all. Nay, he did more; he has infused his own spirit into the artisans, both here and in England. On both sides of the Atlantic men of the first ability have been at work with pencil and chisel, each band filled with an honorable ambition to make their part the best; so that really much of the spirit of the old craftsmen has gone into this labor, and now lives under yon sculpture."

To visit New York and fail of seeing the Trinity reredos, would now be a *faux pas*.

But to speak of coming things. Union Square is to have another iron box, similar to that in which Tiffany & Co. store their valuable goods, and adjoining to it. The old Spingler House is falling beneath the wreckers' crowbar; and soon this reminder of old New York, by which we mean the metropolis of twenty-five or thirty years ago, will be no more. It was once, as the Spingler Institute, a young ladies' seminary of no small repute; and there are thousands in society to-day, who acquired their accomplishments in this school, then on the outskirts of the town. The owner, Col. M. M. Van Buren, has determined on one of the usual iron-front, brick-back, wooden floored, many-storied, cheap, and showy fire-boxes, of which our city has too many now. The frontage is 77 feet 6 inches, and depth 110 feet, in one mass 5 stories high, of no particular architectural merit. An L in the rear is 26 feet x 49 feet, making total depth 159 feet. The cost will reach $110,000. The height to the top of the sheet-iron balustrade over the sheet-iron cornice will be 98 feet. Within there are merely loft floors carried on iron pillars.

The Jauncey Court work is getting on with the care and deliberation befitting the expenditure of a quarter of a million. The two designs are as various as can well be, as far apart as Gaul from Briton; Mr. Clinton giving a labored work in Victorian Gothic, and Mr. Alfred H. Thorp a startling design in Parisian style. It will be the very proper English dame with all the paraphernalia of her station, beside the dashing lady of the *demi-monde* arrayed for a drive in the Bois. From top to bottom Mr. Thorp's building will show only dazzling white marble. The building covers an area of 30′ 6″ x 65′ 6″, with a rear wing 22′ 6″ x 56′ 4″. The construction is fire-proof throughout, with iron beams and P. B. Wight's patent columns. Hall-ways and stair-treads with marble tiling, and marble-panelled wainscoting. The front is a pier and lintel construction, with high basement, and five stories and attic. From the fifth story 72 feet above the curb-line, a marble balcony with bronze rail will project. The roof will have dormer windows; not very visible, however, from the street. To the top of cornice-line the height is 84 feet. A peculiarity of the plan, and one which will find favor, is the setting of the entrance-hall floor at an intermediate level between the basement and first floor. The basement is 12 feet, and the first story 17 feet high, a total of 29 feet. The hall floor is set 8 feet above the basement level: then, with a height of 12 feet in hall, a mezzanine floor of 9 feet is left overlooking the main floor; a railing along this, and a short stairway to reach it, will give greatly increased accommodation, while the basement will extend across under the hall as before; a spur in the hall and a few steps will give access to the first floor. The elevator is carried up in the stair-well, while the several window-heads, over the French sashes, will be filled in with cathedral white glass set in lead; the object being to secure form rather than color effect. How the two buildings will look together, it is difficult to say: the polychrome of one will certainly have an effect upon the monochrome of the other, and *vice versa*; though which will suffer, if either, we must wait and see.

The latest thing is the proposition of Vaux and Radford to demolish the useless distributing reservoir on Fifth Avenue, and occupy its place by a Metropolitan Museum of Scientific Industry, something similar to the permanent exhibition now occupying the Centennial Main Building in Fairmount Park, Philadelphia. Messrs. Vaux and Radford have addressed a letter to the mayor suggesting a design, which is certainly a novel one. It proposes a hall or pavilion 390 feet square, covered by an arched roof 135 feet high from floor to ceiling, resting on outer walls and converging to a central shaft or column; second, a corridor with gallery over, surrounding the hall. The total floor-space thus given will be about five and a half acres. The central shaft will contain stairs and lifts, giving access interiorly to a balcony under the ceiling, and exteriorly to a platform 100 feet square, and 175 feet from the floor level, which is intended as an outlook and open-air refreshment-room. Provision is made for an orchestra at the base of the vertical shaft; and a portion of the floor is furnished with seats for the audience. Communication will be made with the park on the west side, with suitable approaches, etc. By the mode of construction and arrangement proposed for lighting and ventilation, it is believed that the inconvenience arising from the glare and heat of the sun will be much less than is usually experienced in buildings erected for purposes of an analogous character. Full provision for heating and for the accommodation and convenience of visitors has been made; and from the result of a careful estimate, based on present prices, and assuming that the site is cleared to the level of Fifth Avenue, it appears that such a building could be erected in a substantial and complete manner for $850,000, exclusive of terraces and work on park approaches.

The demolition of the present mass of reservoir masonry covering a space 400 feet square will be an enormous task; and altogether it is better to allow the present black elephant to rest on our municipal hands than spend time and money in substituting for it a white elephant, about equally useful or useless.

THE CHOIR STALLS OF CANTERBURY CATHEDRAL.

THE Rev. W. J. Loftie, F.S.A., Member of Council, Royal Archæological Institute, writes: "We hear a good deal of a new Society for the Suppression or Discouragement of Restoration. What are its members about? Some of your readers may not be aware that owing to successive repairs and alterations, there is very little left of the structure of Canterbury Cathedral older than the present reign. But among the few genuine relics of antiquity must be reckoned the choir-stalls, which are good examples of the delicate carved work of the age which produced Grinling Gibbons. It is proposed to remove them as incongruous, and supply their place with modern work in imitation of some fragments of a stone screen of the fourteenth century. The ancient stalls are, we are told, to be placed elsewhere; but elsewhere will not be in the choir for which they were made, where they look beautiful, and where they are no more incongruous than any of the other Romanesque work in which the cathedral abounds. There is no reason for removing these picturesque and interesting remains which does not apply equally against all the Norman work. It is true the Chapter in 1840 removed the Norman tower, and replaced it with a perpendicular imitation; but this is hardly a precedent to copy. Let me humbly warn intending subscribers of what they are doing."

In reply to this, Mr. Beresford Hope writes: "I observe that my friend Mr. Loftie has written to you in opposition to Sir Gilbert Scott's scheme for reinstating the choir of Canterbury Cathedral, and at the same time for removing the actual western stalls of Queen Anne's date to some position in which their delicate workmanship shall be visible, as at present it is not, owing to inevitable deficiency of light. A few words will be enough to show that Mr. Loftie's apprehensions verify the wise man's description of fear, as 'the betrayal of the succors which reason offers.' The 'unusual

destructiveness' is this: The choir of Canterbury differed from other mediæval minsters in never possessing a richly-carved series of wooden canopies ranging over its stalls; but it does still possess a notable portion of that which was the substitute in its north and south enclosure, viz., a peculiarly beautiful stone screen of the finest period of the middle pointed style, constructed by and called after Prior Eastry. This composition had been originally re-turned round the west end of the choir so as to form the inner face of the 'jube,' or choir screen; but whether or not any sufficient portion of this part of the work still survived was not known, blocked as the space was by these very beautiful stalls of the Gibbons style. Recent investigations, however, revealed the fact that enough of this, the richest feature of Eastry's choir enclosure, was in existence to admit of its being perfectly reinstated, if only the aforesaid stalls did not pre-occupy the ground. Assuming that, in spite of their incongruity of style, they were so sacred and so beautiful as to forbid their removal, of course all hope would have had to be abandoned of ever reinstating the composition of Eastry, and thus of re-creating in Canterbury Cathedral an example — unique, at all events in England — of an internal choir enclosure of the purest days of Gothic designed in stone, and not in wood. The beauty of these more recent stalls was simply that of their own details. They unriddled no problem of archæology or art; they had no correspondence with the surrounding structure. That which they could most rightly claim was that they should stand in some position in which the minute finish of their delicate workmanship could be appreciated, as is emphatically not the case where they are placed. Under these circumstances the authorities of Canterbury Cathedral, acting by the advice of Sir Gilbert Scott, have decided to remove the stalls to some better light, and at the same time to reinstate Eastry's enclosure, and thus make Canterbury Cathedral rich by two, and not by one only, monuments of art; and for this they are taxed with 'unusual destructiveness,' and the public warned of helping them."

ARCHITECTURAL RESTORATION: ITS PRINCIPLES AND PRACTICE.

[From a paper read by Mr. J. J. Stevenson before the Royal Institute of British Architects.]

FOR many years I have felt that restorations, as usually conducted, were a mistake; that they were destroying the old art, and obliterating the history of the country. But it seemed useless to say any thing, and the few whom I knew to hold similar views were equally hopeless. The mass of the architectural profession was against us; the clergy, who had the chief say with regard to churches, the most numerous and important of our old buildings, considered it a duty to art and to religion to restore them, giving liberally their exertions and their money, and exhorting all whom they could influence to aid in the good work. The tide in favor of restoration was so strong that it seemed hopeless to oppose it, — the only result injuring one's self and offending friends; for it was useless to speak without giving examples of the harm and destruction we believed were being done. Yet we are bound to face even these risks, if we are right in thinking that irremediable harm is being done to the old art-records of the country. I am sure that those whose system of restoration I am attempting to prove wrong will acquit me of any personal motive in expressing my opinion.

I take a paper of advice to the promoters of restorations, issued by the Institute of British Architects, as a fair exponent of the present system. It is entitled "Conservation of Ancient Monuments." It seems to me to consist mainly of recommendations for their destruction. This paper bears date March, 1865. It was, I believe, the result of an admirable address on the evils of restoration, read by Sir Gilbert Scott to this Institute in 1862. It is difficult, after reading this address, to believe that any more old churches would be destroyed by restoration. Yet the process has been going steadily on, approved by clergy and architects, the press and the public, as holy work. But the dissatisfaction with the restorations of the last thirty years has been more wide-spread than we thought. Since I undertook to read this paper, a society has been formed which includes names prominent in the church, in literature, and in art, with the view of opposing the present system, convincing the public of the error of it, and trying to save what of our historical buildings yet remain untouched and untampered with.

An old church which has not been restored is an absolutely trustworthy historical document, a continuous record of English history. Thirty years ago England was full of such old churches. A few are left, but to our children they will be absolutely unknown. Unless the fashion changes, every one will have been restored. The ignorant and foolish destruction of historical records which restoration too often perpetrates is noticed even by those who are in favor of restoration.

The Institute paper says:—

"It cannot be too strongly insisted on, that in dealing with an ancient church or other building the object should be not simply to put it in good repair, but to preserve it as an authentic specimen of the ancient art of our country. Every old building has an historical value, and it should be remembered that this is gone when its authenticity is destroyed. It must be remembered that new work is of no value or interest, excepting so far as it serves to preserve the ancient design, and that no interest will ever be attached to it unless original parts remain to attest its authenticity."

Good as the advice in this paper is, so far as it goes, I venture to assert that it is wholly inadequate, even if followed (and unhappily it has not been followed), to save our ancient monuments from being destroyed by restoration; that, keeping within the four corners of its advice, almost any amount of tampering with old buildings, and their destruction as historical records, is possible; and further, that the paper encourages and advises such tampering and destruction: for in the first place there is implied in it throughout, underlying every sentence of its advice, the view which seems held by all restorers, from the most eminent, learned, and conservative, to the most ignorant and destructive, — that the Reformation was a mistake, that since then the Church of England has no history worth recording, and that the historical monuments and the ecclesiastical arrangements of these three centuries of darkness and degradation ought to be destroyed. This, we know, has been the almost universal practice in restorations. In accordance with it, much costly work — the best which its age could produce — has been removed or destroyed; and more is threatened by those who, while destroying it, proclaim their conservatism, and declare that their object is to preserve historical records. It is proposed, for instance, to remove the rich carved oak screen which separates the choir from the nave in Canterbury Cathedral. Unless on the idea that the monuments of the Church of England since the Reformation have no historical value, the removal of this screen flatly contradicts the Institute's "Advice."

"A vigilant guard should be kept against the indulgence of individual fancies for or against particular features or styles, and especially against the theory that a restored church must be purged of all features subsequent to some favorite period. All such notions are in the highest degree dangerous, and have rendered many a restored church actually worthless as an historical monument."

Some restorers include in the modern work which it is their duty to destroy, any additions or alterations in the Perpendicular style to the original design of the building.

In Durham Cathedral the plain round Norman windows of the aisles were once filled with the most delicate Perpendicular tracery. It was obvious to the meanest capacity that this was not part of the original design. What the meanest capacity could not see, however, was how the division of the tracery increased the appearance of size in the church; how its delicacy brought out by contrast the massive grandeur of the piers. So, in the continual tinkering to which that unfortunate cathedral has been subjected, this tracery was cleared away. The windows now with their mean stained glass look dull and poor.

At Chester Cathedral, Sir Gilbert Scott removed the Perpendicular chapel which stood against the south wall of the lady-chapel. Instead of it he erected at the end of the south aisle an apse, of the foundations of which he had found traces, with the curious form of roof consisting of half a cone found in some old Norman churches, but not, so far as I am aware, in England.

The Institute paper advises the destruction of Perpendicular work, stating that "one main object in all church restorations should be to get rid of modern additions put up without regard to architectural propriety." Among these it includes the flat roofs of Perpendicular times; saying that though these are by no means always to be condemned, the new roof should be made of the same steep pitch as the original roof. This implies that flat roofs are generally to be condemned; and such is the practice of the best restorers. Mr. Street has done this in several churches; Sir Gilbert Scott replaced the old flat roof of the Venerable Bede's Church at Jarrow by a steep one. The result is, that the tower looks low, and is hardly noticed from a distance. Formerly, standing clear from the flat roofs, it was most conspicuous, and had a remarkable appearance of height, and held its own even among the factory chimneys which surround it.

But even if Perpendicular work is bad, we have no right to destroy it. It is the specially English architecture. It grew up as the people threw off foreign influences, Norman and Angevin, and asserted their English individuality. I have to confess that I like it; that I do not understand the dislike which many architects have to it.

While restorers have shown no scruples in destroying Perpendicular and Renaissance work, they have generally professed to treat work of earlier date with respect. But no period is safe from them. At Canterbury Cathedral one of the western towers was Norman. The authorities thought the two towers should be of the same design: so they pulled down the Norman tower, thus destroying the evidence it gave of the length of the original Norman church, and built a copy of the later tower, which they scraped and altered to look like the new one, so that the symmetry might be perfect.

The great tower of St. Alban's was covered at the time it was built with smooth plaster, which remained almost complete till the late restoration. One of the monks records with admiration that the building looked like a single stone. The monk's taste may have been defective. Sir Edmund Beckett, though he disapproves of removing plaster, thinks the tower does not look ill, as it is redeemed by the large quantity of dark cement used in the late restoration. He has a right to that opinion. But this plaster covering was historical, and no one has a right to destroy his-

torical documents. To remove it was to tear a page out of the records of English history.

I have never been able to understand the curious delusion which possesses many modern architects, that plastered surfaces on walls are inconsistent with the Gothic style. In new buildings they are welcome of course to carry out the idea, and to show brick lining inside their houses, if their employers will let them; but they have no right to remove as they do the ancient plaster from mediæval buildings. Yet the Institute paper advises this course.

The mess which has been made in many old churches by restoring away the ancient plaster is really shameful. Mr. Street stripped the walls of the nave of Burford Church, and left the rubble pointed. We all know from the admirable illustrations of Bowman & Crowther the beautiful church of Heckington in Lincolnshire, which was a perfect example of the exquisite delicacy of the Middle Pointed style. The restorer has shown his appreciation of it by clearing the plaster from the inside, leaving the coarse rubble-work, as the Institute recommends, exposed to view, and pointing it all over with wide black joints. The ugly network is the only thing one can see in the church. One would think that to perpetrate this must have required the ignorance of a builder, joined to the self-conceit of an architect.

But there is high authority for this treatment. M. Viollet-le-Duc did the same to Notre Dame at Paris, where, however, the effect is not quite so atrocious, as the stones are squared, and the dark network consequently more regular.

Judging from their practice, one of the most remarkable characteristics of some restorers is their incapacity to see the marvellous color which time gives to buildings, and their want of appreciation of the interest and dignity which is given them by the marks of age. They like to scrape every thing clean, and as the specifications say, to "leave all perfect." In so doing they neglect the Institute's "Advice," which says that "in the restoration of decayed stone-work no scraping or tooling of the surface of the stone should take place under any circumstances."

Of all restorations, the most thoroughly destructive are those which attempt to restore the colored decorations in the interior of old buildings.

The pity is, that once the buildings are recolored, the record of what they once were is completely and forever destroyed. The whitewash did not destroy it, but rather preserved it. The modern decorator seems to think that one blue or green is as good as another.

It may perhaps be asked, What should be done as regards the restoration of ancient buildings? Is it too much to suggest that we should leave them alone; keep them in repair; keep out the wet; piece the roofs where needed; mend them with lead, and not with the botcher's companion — Portland cement? If the walls are sinking, underpin them. If they are bulging, build a buttress or tie them in. Surely our building and engineering science is capable of so much. Such repairs will not destroy the record, as pulling them down and rebuilding, and making them as we believe they were at first, must always do. Do not destroy the evidence of age, for it is this which gives the buildings their value.

Above all things, save the few churches which are still untouched from thorough restoration by an architect. For it is the knowledge and skill of the architect, which destroy the authenticity of the building as a record of the past. He is by profession a clever forger of old documents. He is trained to the tricks of the trade. As the forger selects paper like the old for his false documents, so the architect is taught in renewing an old church always to use stone of similar character to the old, so as to make his false work indistinguishable from the genuine. In a restored church we can never tell whether the new windows we see are old ones renewed, or the product only of the architect's imagination; and thus doubt is cast on the authenticity of every part of the building. This is why our alterations are deceptive, while former ones, each in the style of the time, were not so. We have no style: we forge only old ones.

NOTES AND CLIPPINGS.

THE LOUVRE. — The work of restoring the Louvre is going on satisfactorily. The two wings of the edifice are already finished. In front of it the laborers are erecting an enormous scaffolding in order that artists may ornament the principal façade by executing anew Lemot's bas-relief representing the bust of Louis XIV. placed on a pedestal by Minerva, in the presence of the Muses, Cupids, and other mythological figures. Above the grand entrance to the Louvre there will be placed another large bas-relief sculptured by Cartellier, and representing Fame in a car drawn by genii, distributing crowns.

A PARISIAN FIND. — An interesting discovery has lately been made at Montrouge, Paris, where in an uncultivated field was unearthed a group in granite consisting of a woman with a Medusa head, and a body finishing in a serpent's tail, who is trampled upon by a rearing horse whose rider at the same instant transfixes the monster with his javelin. Underneath the group was found an oaken chest in which was a cinerary urn, while close at hand were the remains of four columns, some medals, a few lamps, and some ancient bricks. Unfortunately the group was seriously damaged, while the urn and a parchment it contained have disappeared, so that there is now no clew as to what the statue is or where it came from.

A NEW PHILADELPHIA CHURCH. — On the 24th ult. was laid the corner-stone of the new Central Presbyterian Church, Messrs. Collins and Autenreith, architects. The dimensions of the new church-lot are 100 feet front on Broad Street by 146 feet in depth. Of this the church proper will occupy a space 80 by 75 feet, and will have two side yards on the north and south, leading to a chapel in the rear, which will contain a lecture-room church-parlor, and ladies' room on the first floor, and several Sunday-school rooms and a library on the second floor. The body of the church proper will contain six hundred and six sittings, and a gallery to accommodate about two hundred and seventy-six persons, while the lecture-room will be fitted up to seat about three hundred. The building will be in the Romanesque style. The receding centre of the front will be flanked by two projecting towers, the one on the north to be 126 feet in height. The towers will be pierced by twin windows in the first story, single in the second, and arcade windows above. In the interior the finish will be in hard wood for stairs, pews, and wainscoting. The walls and ceilings will be richly ornamented with color. An interesting feature in the interior will be the marble platform and pulpit which served for many years in the old church.

NOT AN OFFICE, BUT AN EMPLOYMENT. — In the suit of Frederick Law Olmsted against New York city, the Superior Court, General Term, Judge Speir giving the opinion, decides that the position of landscape architect of the parks is not an office, but an employment. Mr. Olmsted, while holding the position of landscape architect, accepted the position of commissioner of the state survey. He received no salary for the latter position, and resigned it within three months; but the city declined to pay him for that time, on the ground that the acceptance of any second office is a resignation of a previously held city office. Judge Speir holds that the position on the parks was not an office, and affirms the verdict in Mr. Olmsted's favor.

"CATARINA CORNARO." — Hans Markart's picture is to be shipped to Vienna.

THE DUKE OF BRUNSWICK'S MAUSOLEUM. — The late Duke of Brunswick, who died a few years ago at Paris, was possessed of very considerable wealth in diamonds and other precious stones. His collection was for some time in this country. In a modest house in St. John's Wood, a burglar and fire proof room was built, in which it was kept; but the owner, growing perhaps tired of the monotony of English society, removed to Paris some years before his death, and took with him to that paradise of Yankees the whole of his mineral and other possessions. These, along with other property of immense value, he bequeathed to the city of Geneva: and the municipality, after mature consideration of the most appropriate manner in which to record their gratitude, have resolved to erect a mausoleum to the memory of their benefactor, which shall be without a parallel in Europe. The monument is to be placed in the Jardin des Alpes, and it is to cost 1,400,000 francs, or $240,000. The design includes a series of six statues, representing ancestors of the deceased duke. The first is to be Duke Henry, "the Lion," and the last that of Duke Frederick William, who fell at the battle of Quatre Bras, which immediately preceded the defeat of the French at Waterloo. On a colossal pedestal of polished granite, sixty feet in height, will rest the sarcophagus, on which will be a recumbent figure of the prince; and over this will be a canopy, to be surmounted by an equestrian statue of the late duke in modern civil costume. The canopy is to be supported by pillars of white marble richly sculptured. The artist selected for carrying out this grand design is M. Franc, a citizen of Geneva. The statue is to be by M. Vella, and the animals are to be executed by M. Cave, who are also natives of the canton which the Duke of Brunswick has so magnificently endowed. — *London Globe.*

DODONA. — Fuller accounts of the recent excavations at Dodona have reached us through the *Examiner*. The real position of that ancient Hellenic sanctuary was determined a short time ago by M. Konstantinos Karapanos, who sought for it in the valley of Tsarakobitza, where formerly the town of Passaron was supposed to have been situated. In the neighborhood of this valley there is a projecting hill with a triple group of ruins. On the top are the ruins of a little town with a seven-turreted wall. On the slope of the hill a theatre is seen, which Mr. Martin Leake has already described. To the east of the theatre the sanctuary was placed. A temple court 200 metres long and 90 metres broad, which surrounded a temple of Zeus 40 metres long, has been discovered. Another enclosure measuring 110 metres by 105 metres shows several double rows of pedestals on which votive offerings were placed. These pedestals marked sacred pathways to various sanctuaries; one of which was dedicated to Aphrodite, as is shown by the inscription on a metal wheel, a symbol of the goddess. At Dodona, a mass of metal figures of deities, bronze tablets bearing inscriptions, clay vessels dedicated to Zeus Naïos, Dione, and Aphrodite, ornaments, arms, tools, and more than 80 leaden plates, — a record of oracles, — have been dug up. In the war between Philip V. of Macedonia and the Ætolian league, Dorimachos burned the pillared hall of Dodona, destroyed the votive offerings, and demolished the sanctuary, the remains of which have just been brought to light by M. Karapanos and his French assistants.

A "RUM JOKE." — The Fourth Church, Hartford, Conn., was erected in 1848 and 1849. When the spire approached its completion, and the ornamental finials or hollow balls below the weather-vane were in process of construction, certain residents of North Main Street contributed a quart bottle of fine old rum and a pack of playing-cards, which were placed, without the knowledge of the church committee, in the hollow swell beneath the vane. The bottle of liquor was duly marked with the date (1849), but probably without the names of the contributors; and under these ungodly devices the religious services have been carried on for nearly thirty years, without a suspicion of the situation aloft.